

CLAIMS

1. Use of IL-15 or active variants thereof and/or IL-15 activity enhancing compounds for the manufacture of a pharmaceutical composition for manipulating memory cells of the immune system.
- 5 2. Use of IL-15 or active variants thereof and/or IL-15 activity enhancing compounds according to claim 1 for manipulating viability of memory cells generated during encounter with antigen.
- 10 3. Use of IL-15 or active variants thereof and/or IL-15 activity enhancing compounds according to claim 1 for manipulating responsiveness of memory cells to a new encounter with antigen.
- 15 4. Use of IL-15 or active variants thereof and/or IL-15 activity enhancing compounds according to claim 1 or 2 to promote an immune response of said memory cells.
- 20 5. Use of IL-15 or active variants thereof and/or IL-15 activity enhancing compounds for inducing a resting phenotype in ex vivo propagated T lymphocytes.
6. Use of IL-15 or active variants thereof and/or IL-15 activity enhancing compounds for protecting ex vivo propagated T lymphocytes against cells death in absence of growth factor.
- 25 7. Use of IL-15 or active variants thereof and/or IL-15 activity enhancing compounds according to claims 1 to 6 wherein the memory cells are CD4+ T lymphocytes.
- 30 8. Use according to any one of the claims 1 to 7, wherein the IL-15 activity enhancing compound is lipopolysaccharide (LPS).
9. Use of IL-15 inhibiting or eliminating compounds for the manufacture of a pharmaceutical composition for manipulating memory cells of the immune system.

10. Use of IL-15 inhibiting or eliminating compounds according to claim 9 wherein the memory cells are CD4⁺ T lymphocytes.

11. Use of IL-15 inhibiting or eliminating 5 compounds according to claim 9 or 10 wherein said compound is selected from the group consisting of an anti-IL-15 antibody, anti-IL-15R α antibody, fragments of these antibodies, e.g. the Fab or F(ab') $_2$ fragment, soluble IL-15R α , fusion proteins consisting of soluble 10 IL-15R α and Fc fragment, compounds, e.g. peptides, binding and/or inhibiting functional IL-15 receptor, IL-15 antisense oligonucleotides.

12. Pharmaceutical composition comprising IL-15 or active variants thereof and/or IL-15 activity 15 enhancing compounds, optionally together with a suitable excipient.

13. Pharmaceutical composition according to claim 12 for use in manipulating memory cells of the immune system.

20 14. Pharmaceutical composition according to claim 12 or 13 for use in the treatment of auto-immune diseases or in treatment before, during or after transplantation.

25 15. Pharmaceutical composition according to claim 12, 13 and 14, wherein the IL-15 activity enhancing compound is lipopolysaccharide (LPS).

16. Pharmaceutical composition comprising IL-15 inhibiting or eliminating compounds, optionally together with a suitable excipient.

30 17. Pharmaceutical composition according to claim 16 for use in the repression of an immune response of memory cells of the immune system.

18. Pharmaceutical composition according to claim 16 for use in the treatment of immune deficiency 35 diseases, or in treatment before, during or after vaccination.

19. Pharmaceutical composition according to claims 16, 17 and 18, wherein the compound is selected

from the group consisting of an anti-IL-15 antibody, anti-IL-15R α antibody, fragments of these antibodies, e.g. the Fab or F(ab'), fragment, soluble IL-15R α , fusion proteins consisting of soluble IL-15R α and Fc fragment, 5 compounds, e.g. peptides, binding and/or inhibiting functional IL-15 receptor, IL-15 antisense oligonucleotides.

20. Pharmaceutical composition comprising ex vivo cultivated T lymphocytes, treated with IL-15 or 10 active variants thereof and/or IL-15 activity enhancing compounds.